March 8, 2005

FINAL DECISION DOCUMENT

The U.S. Environmental Protection Agency (EPA)
Final Decision
to Deny a Request for a
Variance to Water Quality Standards for
the discharge of metals from the
Hecla Lucky Friday Mine

I. Summary

EPA is denying Hecla Mining Company's (Hecla) request for variances from the water quality standards for the discharge of cadmium, lead, and zinc at the Lucky Friday Mine to the South Fork Coeur d'Alene River (SFCDA River or South Fork). The decision to deny the request for these variances is based on EPA's review of information submitted by the Hecla Mining Company.

On February 21, 2001, Hecla Mining Company first submitted a request to EPA for variances from the Idaho water quality standards for lead and zinc that were the basis for the lead and zinc effluent limits in the draft National Pollutant Discharge Elimination System (NPDES) permit for the Lucky Friday Mine. Hecla asserted that water quality standards could not be attained in the SFCDA River during the term of the permit (five years) and a variance was justified based on a demonstration that:

1) human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
2) dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
3) controls more stringent than those required by section 301(b)(1)(A) and (B) and 306 of the Act would result in substantial and widespread economic and social impact.

Hecla requested a variance for the interim period until revised water quality standards being developed by the State of Idaho were approved. These revised standards reflected site specific conditions for the SFCDA River. EPA approved Idaho's adoption of site-specific criteria (SSC) for cadmium, lead and zinc for the SFCDA River and its tributaries on February 28, 2003. On June 9 and July 11, 2003, Hecla revised its request for variances to now apply to the SSC for lead, and zinc and added requests for variances from the water quality criteria for cadmium and

mercury. In subsequent correspondence Hecla withdrew its variance request for mercury.

EPA reviewed the supporting documentation provided in Hecla's initial request and determined that the information Hecla supplied to support an economic basis for a variance was incomplete. Therefore, EPA requested additional financial and operating information from the company. Correspondence between EPA and Hecla continued through a series of letters in 2003 and 2004 which provided the additional information which was necessary for EPA to evaluate and analyze Hecla's variance request based on an economic demonstration.

Hecla's claims and all information submitted to EPA were analyzed and evaluated in detail. EPA's analysis concluded that Hecla had not demonstrated that the cold water biota use is unattainable for any of the three reasons Hecla specified in its variance request (131.33(d)(3)(iii, iv, vi)). EPA put forth the basis for this determination and our analysis in the Decision Document for the proposed denial (August12, 2004). According to the regulations, the burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one of the reasons specified in 40 CFR(d)(3).

On August 19, 2004, EPA made public notice of the proposed decision to deny Hecla Lucky Friday a variance in the Shoshone News Press, the Idaho Spokesman Review and the Coeur d'Alene Press and initiated public comment on the proposed decision during the month of September 2004.

EPA received 38 separate letters and e-mails commenting on the proposed decision. Twenty four of the thirty eight commenters were supportive of EPA's decision to deny the variance, and fourteen of the commenters were opposed. EPA reviewed each comment and prepared responses. These responses can be found in the document "Response to Comments, Comments Received on EPA's Proposed Decision to Deny a Variance to the Hecla Lucky Friday Mine" (February 18, 2005).

EPA reviewed the material Hecla provided to support its request for variances as well as the comments received during the public comment period. Neither Hecla nor any of the other commenters provided EPA with any new or additional information during the comment period that would provide a basis to revise EPA's analysis (contained in the August 12, 2004 Decision Document, proposed denial) to deny the variance. Therefore, EPA's final decision is to deny Hecla's request for variances. EPA has determined that the requirements for obtaining a variance, as required by the federal rule, (40 CFR Part 131.33(d), 62 Fed. Reg. 41188 (July 31, 1997)) have not been met. The information provided did not support nor demonstrate that attaining the cold water aquatic life use designation is not feasible for any of the three reasons Hecla claimed. Therefore, EPA is denying Hecla Lucky Friday Mine's request for a variance for cadmium, lead and zinc.

A. Background on EPA's Authority to Grant Variances

A water quality standard variance is a short-term exemption from meeting the otherwise applicable water quality standards. EPA authorizes States and Tribes to include variances in their water quality standards. See 40 CFR 131.13 63 Fed. Reg. 36,742, 36,759 (July 8, 1998). In 1997, EPA promulgated a federal rule that established water quality standards applicable to specific waters in the State of Idaho (40 CFR 131.33, Federal Register Vol. 62, No. 147, July 31, 1997), or the "Idaho Rule". As part of this rule-making EPA promulgated a cold water biota beneficial use designation for the SFCDA River. This rule also set forth requirements and a procedure for the Regional Administrator of EPA to grant variances to the cold water biota use in the SFCDA River (40 CFR 131.33(d), 62 Fed. Reg. 41188 (July 31, 1997). The Regional Administrator of EPA has the authority to grant variances to water quality standards in the SFCDA River.

In the Idaho Rule, a water quality standard variance applies only to the permittee requesting the variance and only to the pollutant(s) specified in the variance for a specific time; the underlying water quality standard otherwise remains in effect. 40 CFR 131.33(d). Maintaining the standard rather than changing it assures that further progress is made towards improving water quality and eventually attaining the standard.

The State of Idaho adopted revisions to its water quality standards that apply to the SFCDA River. Two specific provisions which have relevance to the proposed variance are Idaho's adoption of 1) a beneficial use designation of cold water for the SFCDA River and 2) site specific criteria (SSC) for lead, cadmium and zinc for the SFCDA River and its tributaries. These revisions were submitted by IDEQ to EPA on August 5, 2002 for review.

EPA formally approved the SSC on February 28, 2003 and thus these criteria are now the effective water quality criteria for CWA purposes for the SFCDA River and its tributaries. EPA has yet to approve the State's beneficial use designation. If and when EPA approves this beneficial use designation, the Agency will then withdraw the federal rule for cold water biota as a beneficial use designation for the SFCDA River. Any variance is a change to water quality standards that would need to be approved by EPA. Once EPA approves the State's use designation and withdraws the federal rule, then the more typical process for variances would apply, in that applicants would apply to the State for variances and any a grant of a variance would then be submitted to EPA for approval.

B. Process and Criteria for Granting Variances

The procedure for granting variances in the SFCDA River is identified at 40 CFR131.33(d). The procedures state, in part, that the applicant must submit a request for a water quality standards variance to the EPA Region 10 Administrator. The application shall include all relevant information showing that the requirements for a variance have been satisfied. The burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one of the following reasons as set out in 40 CFR 131.33(d)(3):

i. Naturally occurring pollutant concentrations prevent the attainment of the

standard.

ii. Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the standard.

iii. Human caused conditions or sources of pollution prevent the attainment of the standard and cannot be remedied or would cause more environmental damage to correct than to leave in place.

iv. Dams, diversions or other types of hydrologic modifications preclude the attainment of the standard, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the standard.

v. Physical conditions related to the natural features of the water body, unrelated to water quality, preclude attainment of the standard.

vi. Controls more stringent than technology-based effluent limitations would result in substantial and widespread economic and social impacts.

The rule additionally specifies that a water quality standard variance will not be granted if:

- standards will be attained by implementing the technology-based effluent limitations and implementing reasonable best management practices for nonpoint source control or

- the variance would likely jeopardize the continued existence of any threatened or endangered species listed under the Endangered Species Act or result in the destruction or adverse modification of such species critical habitat.

II. Hecla's Request for a Variance

A. Background

By letter dated February 21, 2001, Hecla Mining Company submitted a request for variances from water quality standards for lead and zinc that were the basis for the lead and zinc effluent limits in the 2001 draft NPDES permit for the Lucky Friday Mine. In this letter Hecla requested the variances until the SSC were approved. This letter included numerous exhibits in support of the request.

Because Hecla had stated that the variance was only being requested until the SSC were approved, EPA focused its resources on the review of Idaho's work with respect to the SSC. EPA assumed that if the SSC were approved, it would not be necessary to further process the variance request (Letter from EPA to Hecla, Feb 3, 2003).

By letter dated April 11, 2003, Hecla, in its comments on the 2003 revised draft permit, stated it wished to keep its variance request active. In response, EPA sent a letter to Hecla (dated June 9, 2003) requesting that Hecla formally renew their variance request since their original request was for variances for lead and zinc water quality criteria that were no longer effective. Hecla submitted additional information related to the variance request in a letter dated June 9, 2003. In a letter dated July 11, 2003, Hecla clarified that they were requesting variances from the SSC for cadmium, lead and zinc and the mercury water quality criteria. Subsequent to the July 11, 2003 letter, Hecla withdrew its variance request for mercury in a September 15, 2003 letter.

EPA initially conducted a preliminary review of Hecla's claim that controls more stringent that those required by section 301(b) and 306 of the CWA would result in substantial and widespread economic and social impacts. As a result of EPA's review of the supporting documentation provided in Hecla's initial request, EPA determined that the information Hecla supplied was incomplete and requested additional financial and operating information from the company. Correspondence between EPA and Hecla, continued through a series of letters in 2003 and 2004 which provided the additional information needed to analyze Hecla's variance request.

EPA reviewed the material Hecla provided to support its request for variances and determined that Hecla had not demonstrated the requirements for granting a variance had been met. Therefore, on August 12, 2004 EPA proposed to deny a variance based on the Agency's determination that the requirements for obtaining a variance, as required by the federal rule, (40 CFR Part 131.33(d)(3)) had not been met. The information provided by Hecla did not support nor demonstrate that attaining the cold water aquatic life use designation along with the applicable criteria for cadmium, lead and zinc, is not feasible for any of the three reasons Hecla proposed.

B. Current Status of the Hecla Lucky Friday NPDES Permit

The Lucky Friday permit was last issued in 1977 and expired in 1980. Because the permit was long overdue, it was an Agency priority to issue the permit. Furthermore, a complaint was filed against EPA for undue delay in failing to reissue the Lucky Friday NPDES permit for 22 years. *See Idaho Conservation League et. al. v. EPA*, (W.D. Wa., no.C02-2295Z, 2002). EPA issued the Lucky Friday permit on August 12, 2003, and Idaho Conservation League dismissed its claims on August 19, 2003.

Hecla filed a timely appeal of this permit with the Environmental Appeals Board ("EAB") which had the effect of staying most of the permit's final effluent limits, monitoring requirements, and study requirements, including the limits for cadmium, lead, and zinc that are the subject of Hecla's variance request. Hecla also appealed the state of Idaho's CWA Section 401 certification of the permit in state court. In settlement of the 401 certification appeal, IDEQ issued a revised CWA certification on July 15, 2004. On October 13, 2004, the EAB issued an order remanding certain permit conditions with instructions to Region 10, EPA, to reconsider these conditions in light of Idaho's July 2004 decision to modify the CWA Section 401 certification of the permit. EPA and Idaho DEQ are currently engaged in discussions to clarify

some of the conditions of the modified Section 401 certification and EPA has requested additional information from IDEQ.

EPA is preparing to propose modifications to the permit in response to the EAB's remand order soon after it receives additional information from IDEQ and to issue a final modified permit within two or three months of publication of the draft modified permit. EPA's denial of Hecla's variance request does not impact Hecla's permit or proposed modifications to the permit.

III. Substance of Hecla's Request and Submittal

A. Human Caused Conditions Prevent Attainment of Use and Cannot be Remedied

Hecla asserted that a showing that it is not feasible to attain the standard within five years because of human caused conditions and sources of pollution is a sufficient basis to grant a variance. Hecla maintained that human caused conditions and sources of pollution, including historical mining, channelization of the South Fork, tailings deposition in the flood plain and other nonpoint source impacts have all contributed to the current water conditions in the South Fork, and that these impacts to the South Fork, and the unattainability of the standards, are documented in the South Fork TMDL and the Water Quality Assessment (IDEQ 1993) and the Natural Resource Damage Assessment (NRDA)(Stratus Consulting, Inc. 2000)). Hecla maintained that these and other studies show that water quality standards will not be attained over the next five years.

B. Hydrologic Modifications Prevent Attainment of Use

Hecla also requested a variance based on a claim that hydrologic modifications preclude attainment of standards over the next five years and that it is not feasible to restore the water body to its original condition. Hecla maintained that the South Fork has been channelized in many locations to provide area for development of Interstate 90 (I-90), towns and mining facilities, and that the NRDA (Stratus Consulting, Inc. 2000) determined that 77 percent of the entire length of the South Fork has been channelized. In addition, Hecla stated that because I-90 parallels much of the length of the South Fork and many structures have been built for stream bank stabilization and flood control purposes, that these hydrologic modifications, which involve structures that are infeasible to remove, preclude attainment of aquatic life uses. Further, Hecla maintained that a habitat analysis performed by Dr. Tom Wesche (Wesche, 1999) concluded that human caused conditions including stream channelization have resulted in severe degradation of aquatic habitat within much of the South Fork and that the river lacks the physical structure needed for a quality salmonid habitat.

C. Controls More Stringent than those Required by 301(b) would Result in Substantial and Widespread Economic and Social Impact

Hecla claimed a third basis for justifying this variance is that water quality-based pollution

controls imposed upon the Lucky Friday Mine will not result in attainment of the standards during the term of the permit, and will cause substantial economic impact on the mine as well as widespread economic and social impacts to the affected community. Hecla maintained that it cannot afford to continue to invest significantly more money into the Mine or to sustain continued losses from operations at the mine. Hecla maintained that the Lucky Friday Mine has had millions of dollars in losses over the last five years (Hecla Annual Report, 1995-1999) because of significant capital expenditures at the mine to develop new ore bodies and the depressed price of silver, lead and zinc worldwide. Hecla stated that according to EPA guidance (EPA, 1995), the evaluation of a company's profitability is the primary measure to evaluate whether a company will face substantial economic impacts by installing additional pollution control technology. Hecla maintained that since the Lucky Friday Mine is not making a profit, any additional costs associated with installing expensive and unproven pollution control technology are substantial because they increase losses and could cause the mine to close. In addition, Hecla stated that company wide, it also continues to sustain losses (Hecla Annual Report, 1995-1999).

Further, Hecla maintained that despite significant population growth and economic growth throughout Idaho, Shoshone County has been experiencing a loss in population and stagnating economic development as a result of the declining mining industry in this area. Hecla stated that the Lucky Friday Mine provides many of the high-paying jobs throughout Shoshone County and that if the Mine is forced to close or reduce the number of employees at the mine, because of required installation and maintenance of pollution controls, there will be widespread socioeconomic impacts in the City of Mullan and Shoshone County.

IV. EPA's Analysis of the Adequacy of Hecla's Demonstration for a Variance

The following sections describe EPA's evaluation of each of the bases that Hecla claimed in requesting a variance.

A. Hecla claimed that a variance is warranted based on their demonstration that human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

Hecla raises three arguments in support of its claim that human caused conditions prevent the attainment of the use and cannot be remedied. First, Hecla claims that the evaluation of attainability in connection with a variance request should be based on whether the water quality standards can be attained during the term of the permit (five years). Hecla contended that a variance should be granted or continued based on whether the water quality standards can be attained during the term of the permit (five years).

The Idaho Rule addresses the following aspects of a variance: 1) a variance must be supported by a demonstration that one of the six factors in 40 C.F.R. 133.33 (d)(3)(i) through (vi) (listed

above) has been satisfied; 2) a variance is granted to an individual discharger for a specific pollutant(s) and does not otherwise modify the standards; 3) a variance may not exceed five years or the term of the permit, whichever is less, and extended only where the conditions for granting the variance (i.e., one of the six factors) still apply; 4) upon expiration of the variance, the underlying numerical criteria have full regulatory effect; 5) a variance does not exempt the discharger from compliance with applicable technology or other water quality-based limits; and 6) a variance does not affect effluent limitations for other dischargers. There are no requirements in EPA's regulations or procedures in EPA guidance that suggest that a variance is appropriate because a water body would not achieve standards within the term of a discharger's permit or five years.

Section 101(a)(2) of the Clean Water Act (CWA) establishes an objective to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Further, it sets forth a national goal that, wherever attainable, water quality provide for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Section 303(c) of the CWA states that water quality standards shall serve the purposes of the Act. Although variances are a regulatory mechanism for addressing "wherever attainable" on a temporary, rather than permanent basis, the specific interpretation suggested by Hecla would impede progress toward achieving the national goal of the CWA and is contrary to its stated objective. If the water body's attainment of water quality standards, which is based on many factors, rather than the feasibility of the individual discharger to meet the limits necessary to meet applicable water quality standards, was by itself a condition or trigger for granting a variance, as Hecla contends, the process of restoring waters that do not attain standards would continually be delayed. Dischargers could simply point to the most polluted parts of the water body and argue that if those impaired waters could not attain standards within five years solely by their actions, then they should be granted a variance, regardless of their ability to meet the effluent limits. Under this interpretation, impaired waters would continue to receive variances indefinitely. Granting variances in this manner would allow dischargers to effectively lower water quality standards throughout the entire water body by ignoring the value of protecting waters within it or the value of discharging an effluent that is cleaner than the downstream waters. This approach if allowed would be inconsistent with the goals of the CWA.

Because EPA regulations provide for a variance that is temporary, it actively supports the goals of the CWA, yet it can only be granted or continued if the discharger demonstrates to EPA that attaining water quality standards, or effluent limits based on those standards, is not feasible because one of the six factors in 40 C.F.R. 133.33 (d)(3)(i) through (vi) has been satisfied

Secondly Hecla claims that compliance with limitations necessary to protect downstream uses is infeasible. EPA establishes NPDES permit limits to protect uses (e.g., cold water aquatic life) by achieving water quality criteria instream. Water quality-based permit limits are calculated not only to protect uses in waters in the immediate vicinity of the discharge but also to protect uses that may be affected by the discharge and which are further downstream. This analysis of whether a discharge causes or contributes to an exceedance of the standards is a regulatory requirement. (See 40 C.F.R.122.44). Because the cold water aquatic life use downstream of the

Lucky Friday Mine is impaired and because cadmium, lead and zinc in the Lucky Friday Mine discharges contribute to that impairment, a mixing zone for cadmium, lead and zinc was not authorized for these pollutants by the state of Idaho in its 401 certification of the Lucky Friday permit. As a result, permit limits for these pollutants were established at levels that will achieve the SSC at the end of the discharge pipe. Thus, the effluent limits for cadmium, lead and zinc in Hecla's NPDES permit are based on SSC needed to protect an existing, and currently attained cold water aquatic life use in the upper SFCDA River as well as the cold water aquatic life use further downstream.

Hecla maintains that it is not feasible to achieve the effluent limits in its NPDES permit because it would require Hecla to install unproven treatment technology at the Lucky Friday Mine. Hecla provided information and supporting documentation as part of its economic impacts claim for a variance that identifies the treatment technology (lime precipitation) needed at the Lucky Friday Mine to achieve the effluent limits established in their permit for cadmium, lead and zinc. EPA reviewed and analyzed the information submitted by Hecla and determined that lime and sulfide co-precipitation would be required to meet the permit limits (SAIC 2004). Both of these treatment technologies are commonly used for metals removal and are technically and economically feasible. (SAIC 2004, Coad 2004)

"Historically, the intent of the variance provision has been to: provide a mechanism by which permits can be written to meet a modified standard where discharger compliance with the underlying water quality standard is demonstrated to be infeasible within the meaning of 40 C.F.R. 131.10(g)." See 63 Fed. Reg. 36,742, 36,759 (July 7, 1998). Based on this information, EPA does not agree that Hecla's compliance with limitations necessary to protect downstream uses is infeasible under 40 C.F.R. 131.33(d)(3).

EPA has determined, based on a review of documents submitted by Hecla in its variance request, that Hecla has not demonstrated that the cold water aquatic life use in the upper SFCDA River is not attainable, or that human caused conditions and sources of pollutants, namely mining, prevents the attainment of the cold water aquatic life use in waters downstream of discharges from the Lucky Friday Mine. In fact, if Hecla were to employ the technology it identified as necessary to meet the water quality-based effluent limits, it would reduce the discharge of metals to the SFCDA River, thereby, reducing the number of SSC exceedances in waters directly impacted by the Lucky Friday Mine and move forward to attainment of the downstream use.

Finally, Hecla claims that a variance is warranted based on their demonstration that human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

Hecla asserted that the waters in the SFCDA River are not attaining the cold water aquatic life use downstream from its Lucky Friday Mine because mining operations and discharges, including those from the Lucky Friday Mine, have created human caused conditions and sources of pollution that prevent attainment of the use in the next five years. As a result, Hecla maintained that EPA should grant a variance from water quality standards for cadmium, lead and

zinc to its Lucky Friday Mine.

1. Hecla's Submission

Hecla argued that standards are unattainable because remediation in the Coeur d'Alene Basin will require a plan, and a considerable amount of time and resources beyond what has already been invested. Hecla linked these issues with its five-year permit cycle and concludes that if impaired waters within certain parts of the Coeur d'Alene Basin will not attain standards within five years a variance is justified for its Lucky Friday Mine, which discharges to the upper most portions of the Coeur d'Alene Basin. The fact that cold water aquatic life uses in parts of the Coeur d'Alene Basin may require a remediation plan, and considerably more time and resources in order to restore the aquatic resources which have been damaged by years of mining throughout the Basin does not demonstrate that human caused conditions or sources of pollution cannot be remedied or that standards are unattainable. This is especially true in those waters directly impacted by discharges of metals from the Lucky Friday Mine, which will benefit from improved water quality as a result of Hecla's compliance with the September 2003 permit limits based on water quality standards.

Hecla cited EPA's Draft Feasibility Study Report (U.S. EPA, December 2000) as the basis for their statements regarding both why water quality standards are not attained and the significant amount of time it would take to meet the standards. The purpose of EPA's RI/FS for the Coeur d'Alene Basin (Operable Unit 3) Superfund Site was to describe the nature and extent of the historic mine waste contamination in Operable Unit 3 and evaluate remedial alternatives. A RI/FS is not a remediation or cleanup plan.

However, EPA has developed a remediation plan. A Record of Decision (ROD) documents the selected remedy or cleanup plan for Superfund sites. In September 2002, EPA issued an Interim Record of Decision for Operable Unit 3, which describes an interim remedy called the selected remedy, which will occur in the Coeur d'Alene Basin at a cost of about $360 million (U.S. EPA, 2002). The selected remedy represents a significant remedial response toward meeting the goal of full protection of human health and the environment in the Coeur d'Alene Basin. The selected remedy includes the full remedy needed to protect human health and an interim remedy for protection of the environment and ecological resources. More specifically with respect to remedies within the SFCDA River, the ROD sets forth the actions for improving conditions to support a higher fish density in the SFCDA River. These would include stream side actions such as stabilization and bioengineering of the stream channel and banks and increasing the amount of pools and shade so as to enhance the South Fork as a migratory corridor for fish. In addition the remedy includes cleanup at six sites in the South Fork watershed including Morning No. 6 Mine and Millsite and the Golconda Mine, which impact the SFCDA River above Canyon Creek.

Hecla also cited to the NRD Assessment which discusses the extent of impacts causing water quality impacts to the SFCDA River. The purpose of the NRD Assessment document (Report of Injury Assessment and Injury determination: Coeur d'Alene Basin Natural Resource Damage Assessment, Stratus 2000) is to assess injuries resulting from releases of hazardous substances

from mining and mineral processing operation in the Coeur d'Alene River Basin (Stratus, 2000). The NRD Assessment does discuss exceedances of water quality criteria in the South Fork, but this information does not demonstrate that human caused conditions or sources of pollution cannot be remedied or that standards are unattainable.

Hecla also cited the IDEQ Water Quality Assessment, SFCDA River, (IDEQ 1993). This document contains a summary of water quality data from 1972 through 1992. EPA determined that the information in this document does not support a demonstration that attaining the cold water aquatic life use is not feasible, in particular, above Mullan, due to human caused conditions of pollution and cannot be remedied. In fact, the document supports the conclusion that cold water aquatic life in the South Fork above Mullan is attained.

In IDEQ 1993 (see p.3) the State of Idaho acknowledged that the SFCDA River below Mullan to the confluence with the North Fork has been designated water quality limited and does not currently meet state water quality standards. The particular pollutants of concern are cadmium, lead and zinc. Additionally IDEQ states that "biological and water quality monitoring results (Hornig et al 1988; McCulley Frick and Gilman, 1992) indicate that the water quality of the river and its tributaries have been improving. Fishery and macroinvertebrate biosurveys indicate the river is fully supported from its headwaters to the Canyon Creek confluence near the east edge of Wallace." Additionally, a fishery exists in the reach between Mullan and Wallace. Further, other studies (Hornig et al, 1988, Rabe et al) and IDEQ indicate that macroinvertebrate communities are recovering to some extent in the river below Canyon Creek. The report (see p.4) goes on to state that the "documented recovery of some biotic communities of the SFCDA River and its tributaries indicate that at least a limited cold water biota use exists below Canyon Creek. Sufficient information exists which indicates cold water biota should be considered a protected use for the purposes of the water quality remediation process." Appendix C states that the "....goal of the Clean Water Act is to make waters "fishable and swimmable" and in a similar vein the State Trustees have set a goal of providing for natural redevelopment of fish and wildlife habitat. These statements indicate to EPA that the State's goal is not to abandon the cold water biota use, but instead to recover cold water biota use " and imply that the State does not view that the impairment in these waters "cannot be remedied."

Hecla also cited Appendix C of the IDEQ 1993 document. Appendix C states that water quality studies indicate that controls imposed on point sources since the 1970's have improved water quality with respect to heavy metals contamination. "Fish populations have improved in the river between Mullan and Wallace." Primary sources of metals contamination to the SFCDA River are the Ninemile and Canyon Creek tributaries which join the river at Wallace. Additionally the report states that exceedances of the cadmium, lead and zinc criteria occur below the Canyon Creek confluence with the SFCDA River through the remainder of its course. Above this point criteria are exceeded near Mullan for a short reach. The other upper SFCDA River tributaries do contribute some metals to the river but at concentrations not exceeding the criteria.

2. Summary of EPA's Analysis of Human Caused Conditions Claim

EPA's review and analysis is based on the information Hecla provided in support of its claim as well as other available and relevant information. This included several technical reports developed in support of the SSC and EPA's Final Remedial Investigation Report (Remedial Investigation/Feasibility Study, EPA, 2001a,b) for the Coeur d'Alene Basin.

The principle demonstration in obtaining a variance is the whether or not the designated use is attainable. EPA's assessment of use attainment in the South Fork Coeur d'Alene was divided into two parts. Because the water quality and ecological conditions of the South Fork are significantly different in these two areas, EPA analyzed both the upper South Fork (in the vicinity of Hecla's discharge) and the lower South Fork (below Canyon Creek). EPA reviewed Hecla's submission as well as additional available biological and chemical data for the South Fork Coeur d'Alene River in assessing whether the cold water biota use is "unattainable."

Upper South Fork

Based on EPA's review of the biological and chemical data for the upper South Fork, EPA determined that the cold water biota use is currently attainable as discussed in detail in the August 12, 2004, Decision Document (proposed denial, pages 8-13). The data indicates that the ecological conditions in the upper South Fork are supportive of a cold water biota life use. There are self sustaining populations of fish and macroinvertebrates inhabiting the South Fork near Hecla's discharge, above Canyon Creek. Further, the chemical data indicate that water quality conditions are supportive of cold water aquatic species and have generally shown improvement over time.

In addition, implementation of the Interim Record of Decision (ROD) for the Coeur d'Alene Basin will provide for water quality improvements that will benefit the cold water aquatic species and ecological community in the upper South Fork (Decision Document, proposed denial, August 12, 2004, page 9).

Furthermore, the discharge from the Lucky Friday Mine, which contributes to exceedances of the metals water quality criteria downstream from the mine, can be controlled via treatment. The record indicates that Hecla would be able to meet the effluent limitations that would be required if the variance is denied through the use of technology that is employed at several mines in Region 10. (SAIC , Hecla 1999). In fact, Hecla has already employed sulfide precipitation treatment at its Grouse Creek mine in Challis, Idaho.(Hecla 1999). EPA evaluated the costs and feasibility of both hydroxide precipitation and sulfide precipitation as treatment at the Lucky Friday mine. (SAIC) Sulfide precipitation would allow Hecla to meet its permit effluent limits but it has not yet been shown through treatability studies whether hydroxide precipitation would be sufficient to meet the permit effluent limits .(SAIC, Hecla, June 9, 2002 Attachment F).

Institution of treatment controls necessary to assure compliance with its NPDES

permits ensures that discharges from the Mine will not cause or contribute to water quality exceedances in the vicinity of the mine or in the lower South Fork and thus protects the cold water biota use.

South Fork below Canyon Creek

EPA reviewed information submitted by Hecla as well as information in a number of publicly available technical reports which contained data and information regarding the ecological conditions of the South Fork below Canyon Creek (Decision Document, proposed denial, August 12, 2004, pages 8 - 14). EPA reviewed this information in order to determine whether the cold water biota use is attainable. The information reviewed clearly confirms that ecological conditions in this portion of the South Fork are impaired as a result of mining impacts. Information indicates that the physical in-stream habitat is of low quality and there are exceedances of the numeric water quality criteria for metals (i.e., cadmium, lead and zinc). Although fish and other aquatic life are present in this area of the South Fork, surveys indicate that the density and abundance of aquatic organisms are substantially reduced in comparison to appropriate reference streams. Information which Hecla submitted in support of its variance request substantiates this impairment.

That information, as EPA discussed in the Decision Document (proposed denial, August 12, 2004, page 9), also indicates that water quality has been improving over time and the biological conditions have also seen some recovery. Several of the documents include statements that further indicate that at the current time a limited cold water aquatic life use exists below Canyon Creek (Decision Document, proposed denial, August 12, 2004, pages 11 and 12). Again, EPA reviewed other information in addition to Hecla's submission (Decision Document, proposed denial August 12, 2004, pages 10 - 12). This information also substantiated the conclusion that the use is impaired in the lower South Fork.

Based on the information Hecla presented and other information obtained by EPA, the Agency concluded that the cold water biota use in the lower South Fork is present, although its condition is impaired. It is important to note that a determination of "use impairment" is not synonymous with a determination that the use is " not attainable" and that conditions can not be remedied.

EPA's Interim ROD for the Coeur d'Alene Basin does not support Hecla's claim that the cold water biota use can not be attained. As discussed in EPA's Decision Document (proposed denial, August 12, 2004, page 8 - 13), EPA concluded that water quality and aquatic life conditions in the South Fork range from excellent to poor. The remedies in the Interim ROD vary based on the range of conditions. In those areas where the mining impacts are severe and the conditions are poor it will likely take a significant number of years and the implementation of a number and variety of remedial activities and restoration actions until the goal of meeting

the water quality standards are attained. In those areas where the mining impacts are less, its likely that water quality standards can be achieved sooner.

EPA's analysis in the proposed denial showed that 1) technology for treatment is available and feasible to put in place at the Hecla Lucky Friday Mine, 2) remediation in the Coeur d'Alene Basin is progressing and 3) water quality and ecological conditions are improving, and that the cold water biota use is partially attained. These conclusions suggest that attaining the use and remedying the human caused conditions due to mining is possible in the South Fork. Hecla has not provided additional information since EPA's proposed denial that would refute these conclusions.

In summary, Hecla's submission provided information that supports the fact that cold water aquatic life is present in the lower South Fork even though impaired as a result of mining impacts. However, Hecla did not show how the information and studies they provided demonstrate that the cold water biota use is not attainable and that the mining impacts cannot be remedied. The regulations clearly state that the applicant must demonstrate that attaining the use is not feasible because human caused conditions prevent attainment and these conditions can not be remedied (40 CFR 131.33(d)). An adequate analysis of attainability would need to demonstrate that even with pollution controls in place as well as application of reasonable and cost-effetive best management practices for nonpoint source control 40 CFR 131.10(d) it is not possible to attain full support of the cold water biota use. Hecla failed to provide the necessary analysis of attainability.

3. Summary of Public Comments related to the "Human Caused Conditions" claim

Hecla was the only commenter with respect to EPA's proposed decision to deny the human caused conditions claim (40 CFR 131.33(d)(3)(iii). The principle point in Hecla's comments was that it did not agree with EPA's decision and believed that the Agency's analysis was incorrect. Hecla stated it perceived a lack of clarity in EPA's proposed decision to deny the variance request. Additionally, Hecla argued that EPA's proposed decision to deny the variance was unreasonable and arbitrary. Lastly, Hecla stated that EPA failed to evaluate Hecla's claim and that EPA's findings were contrary to the studies Hecla cited in their variance request.

EPA reviewed these comments and considered each one in the Agency's response (See Response to Comments, Section D, E, Comments # 7 - 11 and Section G. Comments # 16 and 17). EPA concluded that Hecla had misconstrued the requirements which the applicant must demonstrate in order to obtain a variance as well as the basis for EPA's authority for granting a variance. EPA did not find Hecla's arguments to be based on an accurate reading of the Clean Water Act or the implementing water quality standards regulations. EPA concluded that Hecla's comments did not provide a basis to revise EPA's analysis or change the Agency's decision as to Hecla's

variance request.

In a related comment Hecla cited a report which was not previously submitted with their variance request and stated that EPA's analysis was contradictory to this report. EPA obtained the report (Expert Report of Dudley Reiser, 1999) and reviewed it in detail. EPA found that the Agency's analysis of Hecla's claim was not counter to Mr. Reiser's conclusions.(See response to comment # 17)

In summary, neither Hecla nor any of the other commenters provided EPA with any new or additional information during the comment period which would refute the basis for EPA's analysis and decision to deny the variance request based on "the human caused conditions claim."

4. Conclusion as to Hecla's Claim Regarding the "Human Caused Conditions" Claim

The preamble to the Idaho Rule, at 62 Fed. Reg. 41662, July 31, 1997, included an example related to past mining activities where a variance may be granted that appears similar to the Hecla circumstances. However, upon detailed review of all relevant facts of this case, there are three critical factors that distinguish this case from those that might successfully make a demonstration for a variance: 1) technology for treatment is available and feasible to put in place at the Hecla Lucky Friday Mine, 2) remediation in the Coeur d'Alene Basin is progressing, and 3) water quality and biological information for the SFCDA River suggest partial attainment and improving conditions toward which discharger compliance would contribute.

EPA concludes, based on the Agency's analysis of information Hecla has submitted and other available information, Hecla has not demonstrated that attaining the water quality standard is not feasible because human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place in these waters. Therefore, EPA is denying Hecla's request for a variance under 40 CFR 131.33(d)(3)(iii). EPA's denial of Hecla's request for a variance predicated on the "human caused conditions" claim (40 CFR 131.33(d)(3)(iii)), is based on the Agency's determination that the cold water aquatic life use is supported in the vicinity of the Hecla Lucky Friday Mine, and is attainable.

B. Hecla claimed that a variance is warranted because hydrologic modifications preclude attainment of the use and it is not feasible to restore the original condition or to operate such modification in a way which would result in attainment of the use.

1. Hecla's Submission

Hecla states that it is not feasible to restore the SFCDA River to its original condition

because of hydrologic modifications such as channelization. As a result, Hecla states that this independent condition should provide a determination that the designated use cannot be attained (over the next five years) and a variance should be granted. Hecla states that in many locations the South Fork has been channelized from the construction of I-90 to provide for development of towns and mining facilities. Hecla relied upon a report authored by Thomas Wesche, which concludes that the South Fork lacks the physical structure needed for quality salmonid habitat. (Expert Report of Thomas A. Wesche, U.S. v ASARCO et al., No. CV 96-0122-N-EJL, October 1999).

2. EPA's Analysis of Hecla's Claim Regarding "Hydrologic Modifications"

The issue of whether channelization of the SFCDA River precludes the recovery of cold water biota was considered by EPA during its CERCLA investigation of Operable Unit 3 of the Bunker Hill Mining and Metallurgical Complex. As a result of this investigation, EPA concluded that the presence of heavy metal contamination in the surface waters of the SFCDA River was the principal limitation for recovery of aquatic resources (see Appendix K to the Final Ecological Risk Assessment Coeur d'Alene Basin Remedial Investigation/Feasibility Study, May 2001). In addition, EPA concluded that the implementation of selected remedial actions to address surface water contamination would improve the cold water biota habitat in the SFCDA River (see Interim ROD at Section 12.2.).

EPA does not dispute the existence of hydrologic modifications, yet disagrees that attainment of the use as it pertains to the variance request is precluded. As documented in the discussion above, the cold water aquatic life use of the SFCDA in the immediate vicinity of the Lucky Friday mine is attained. According to studies done on behalf of IDEQ, the river above the confluence of Canyon Creek supports healthy populations of macroinvertebrates and native westslope cutthroat trout (IDHW-DEQ 1994; Hartz 1994; EVS 1997).

The use of reference streams and conditions to evaluate and make comparisons of biological conditions is a commonly used approach in watershed assessment. The St. Regis River in Montana was used as a reference area because it is similar in terms of watershed area and drainage characteristics. Similar to the SFCDA River, the St. Regis was channelized when I-90 was developed and it also has some urban, residential, and other transportation infrastructure development. Studies conducted on behalf of IDEQ (Windward 2002) compared and evaluated fish and macroinvertebrate metrics such as trout density, stream fish index of biotic integrity, and stream macroinvertebrate index for the two rivers. For those stations of the SFCDA above Mullan the two rivers are similar. Furthermore, the St. Regis River exhibits a year round resident population of brook and westslope cutthroat trout and mountain whitefish as well as adult bull, rainbow, and brown trout (data obtained from StreamNet [6 July 2004]).

In conclusion, although the hydrologic modifications of the SFCDA may or may not have

a negative effect on the extent of quality salmonid habitat, it is clear from the data that more comprehensive measures of attainment of cold water aquatic life use indicate that the use is not precluded. Moreover, the water quality parameters for which Hecla was seeking a variance are not affected by the adverse effects, such as substrate modification, that may occur from the type of hydrologic modifications in place. The criteria for lead, cadmium, and zinc are protective of acute and chronic toxicity from exposure within the water column. The fact that resident fish may need to pass through stretches of stream that do not constitute ideal habitat does not warrant removal of protection from toxicity through a relaxation of the water quality criteria for metals.

3. Summary of Public Comments Related to the "Hydrologic Modifications" Claim

Hecla was the sole commenter regarding EPA's analysis of Hecla's claim under 40 CFR 131.33(d)(3) (iv), "dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the waterbody to its original conditions or to operate such modification in a way which would result in attainment of the use." Hecla commented that the information contained in EPA's Record of Decision for Operable Unit 3 (ROD) was the supportive documentation underlying Hecla's basis for requesting a variance under 40 CFR 131.33(d)(3)(iv).

EPA discussed its analysis of this claim in the Decision Document for the proposed denial (August 12, 2004 pp.14 - 16). EPA concluded that the Interim ROD did not provide a basis for the conclusion that the cold water biota use was not attainable as a result of hydrologic modifications in the South Fork Coeur d'Alene River (South Fork). The Interim ROD is a plan for remediation, and not a document which addresses the issue of whether or not the cold water biota use is attainable. EPA reviewed the ROD and other publicly available information and concluded the cold water biota use is attainable (i.e., fish are present in the South Fork) in spite of the channelization in parts of the South Fork (See Decision Document, proposed rule, August 12, 2004 pp 14-16).

4. Conclusions as to Hecla's Claim Regarding Hydrologic Modifications

Based on EPA's review of Hecla's submission and other available information, the Agency has concluded that Hecla has not demonstrated that the cold water biota use is precluded by the channelization of the SFCDA River. Therefore, EPA is denying Hecla's request for a variance under 40 CFR 131.33(d)(3)(iv).

C. Hecla has claimed that controls more stringent than those required by section 301(b)(1)(A) and (B) and 306 of the Act would result in substantial and widespread economic and social impact.

1. EPA Analysis

EPA recognizes that there are circumstances in which the local economic adverse impacts of strictly applied NPDES permitting requirements may be so severe as to justify a variance. For private sector dischargers, this may mean that a business has to reduce its operations or perhaps close, which may also result in serious adverse impacts on the local economy. EPA, in its Interim Economic Guidance for Water Quality Standards [the EPA Guidance] (EPA, 1995), distinguished substantial and widespread impact from:

- circumstances in which the discharger can clearly afford the pollution controls
- circumstances in which pollution control costs may substantially affect a business' performance without having subsequent adverse impacts on the community
- circumstances where a business' viability is already at risk because of poor performance that is not related to the pollution controls.

In evaluating substantial impacts for a private entity, the EPA Guidance states that

> "If the analysis shows that the entity will not incur any substantial impacts due to the cost of pollution control (e.g., there will be no significant changes in the factory's level of operations nor profit), then the analysis is complete. If, on the other hand, the analysis shows that there will be substantial impacts on the entity, then the resulting impacts on the surrounding community must be considered ..." (EPA, 1995 - ch.3)

The EPA Guidance indicates that "[s]ubstantial impacts refer to financial impacts..." (EPA, 1995 - ch.1) Chapters 1 and 3 of the EPA Guidance describe two steps involved in the evaluation process: first, verify project costs and calculate the annual cost of the pollution control project and second, the financial impact analysis. As part of this evaluation process additional information and tests may be necessary (EPA, 1995). EPA believes that the EPA guidance provides a framework for decision making in this instance and did not receive any comments that convinced it that the approach set forth in the guidance would not be appropriate to use in this case.

2. Hecla's Submission

In February 2001, Hecla requested a variance for its Lucky Friday Mine (the Mine) from any water quality standards that EPA would use to establish water quality-based effluent limitations for lead and zinc in the NPDES permit (Stoel Rives LLP, 2001). Hecla argued that compliance with these limits would require treatment controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act, resulting in substantial and widespread economic and social impacts. Hecla stated that it was undertaking treatability studies to determine the level of treatment that can reasonably be achieved through the use of sulfide precipitation, and that those studies and pilot scale testing should be completed later in the year. Hecla also claimed that, "regardless of the results of the treatability study, sulfide precipitation and filtration will be prohibitively

expensive for Hecla to install. Hecla estimated at that time that the costs of installing a sulfide precipitation and filtration plant necessary to attempt to meet TMDL wasteload allocations is approximately $3.5 million, plus annual operation and maintenance costs of $200,000." Hecla claimed that, "in light of the present financial condition of the Lucky Friday Mine, such an expense would cause a substantial economic impact not only to Lucky Friday and Hecla, but also to local communities and to Shoshone County."

In their request (Stoel Rives LLP, 2001), Hecla stated that, "Because of the depressed price of silver, lead and zinc worldwide, the Lucky Friday Mine has lost approximately $10.3 million over the last five years." In addition, Hecla claimed, "Since the Lucky Friday is not making a profit, any additional costs associated with pollution control technology are substantial. In fiscal year 2000 the Mine will lose approximately $3.1 million. Similar losses were sustained in 1999 and 1997." Hecla continued, "Company wide, Hecla also continues to sustain losses."

In its June 9, 2003 letter to EPA (Hecla, 2003b), Hecla updated its cost estimates (and worksheets G though L) to include $5.6 million for capital expenditures necessary to fully meet the more recent 2003 permit requirements, and $387,000 in annual operations and maintenance costs for wastewater treatment.

In response to EPA's inquiry regarding how much of a variance is required, Hecla responded that "any new costs further compromise the economic viability of the Lucky Friday Unit (Hecla, 2003c)." The widespread impact analysis that Hecla submitted (Worksheets M and N) evaluate the local impact of terminating all employment at the Lucky Friday mine. Finally, Hecla also provided its forward looking confidential internal financial analysis which included an $8 million investment in the Lucky Friday mine, announced in December 2003 (Hecla, 2003d).

3. EPA's Analysis of Hecla's Claim of Substantial and Widespread Economic and Social Impact

The Lucky Friday Mine is operated by, and is a wholly owned division of Hecla Mining Company (http://www.hecla-mining.com/propLucky.html). Confidential information provided for the Mine by Hecla allows EPA to evaluate the Mine's overall financial health (past, present and projected) and assess the financial impact of the pollution control equipment costs on the Mine's continuing operation. Financial information provided by Hecla allows EPA to evaluate the company's overall financial condition and its ability to finance expenditures necessary for the Mine. This financing can occur through the Mine's cash flow and/or through direct support from Hecla or from other sources.

While historical financial and operating conditions may be useful when assessing an entity's current and near-term future prospects, this may not always be the case. With unpredictability of silver market prices, variability in silver market price cycles and

continual changes in operational characteristics of a mine, historical mining operations may not be representative of future operations. Since the Lucky Friday Mine's primary revenue is derived from its silver production, by taking into consideration relatively recent, current and available forecasted operating and financial conditions, EPA can more accurately evaluate the Mine's and Hecla's overall financial condition with respect to the company's variance request. For example, due to continuing low silver and lead prices in the fourth quarter of 2000, Hecla deferred a decision to approve capital expenditures necessary to develop a new area of the Mine. With continuing low metals prices, the company reduced mining activity to approximately 30% of full production, and during 2002 mining activity was increased to 50% of full production (http://www.hecla-mining.com/propLucky.html). With a sustained increase in silver prices since mid-2003 which are higher than silver prices of the preceding few years and also taking into consideration its own forward-looking analysis for the period 2004 through 2011, Hecla made the decision in early December 2003 to invest approximately $8 million in the Lucky Friday Mine to increase silver production by 2007 to near capacity (4 million ounces), to be achieved within approximately 18 months from that date (Hecla, 2003d; http://www.hecla-mining.com/propLucky.html).

Given that conditions have changed during the pendency of Hecla's application, as noted in part above, EPA focused its evaluation of the Lucky Friday Mine's and Hecla's finances and operations starting with the year 2001. At EPA's request, in March 2004 Hecla provided an updated substantial impact analyses for the Lucky Friday Mine and Hecla Mining Company (Hecla, 2004A).

In proceeding with its evaluation of Hecla's substantial impacts submission, EPA used a financial consultant to perform the analysis. (Coad, 2004). Where the EPA consultant found arithmetic errors or inconsistencies in Hecla's submission, these were accounted for by making adjustments to the relevant line items in the worksheets and incorporating these adjustments in the subsequent review. In addition to reviewing the worksheets and additional information provided by Hecla and other publicly available documents, the EPA consultant also performed other relevant analyses.

EPA also obtained an independent opinion for assessing the costs for meeting the water quality standards for the Lucky Friday Mine. This independent assessment concluded that a modified treatment system could be achieved at a capital cost of $3.9 million and annual O&M costs of $311,000 (SAIC, 2004). This compares to Hecla's capital cost estimate of $5.6 million (or $5.5 million adjusted, as corrected to reflect Hecla's detailed estimate), with annual O&M costs of $387,000. Though the EPA financial consultant's review and analyses initially considered all three capital cost figures and their respective O&M costs, particularly when calculated as Total Annual Cost of Pollution Control Project (Coad, 2004), EPA's conclusions were based on using Hecla's adjusted capital cost estimate of $5.5 million and its respective O&M costs.

In its profitability analysis (EPA Guidance Worksheets H and I), Hecla reports earnings

before taxes (EBT) of negative $6.2 million for 2001, positive $9.8 million for 2002, and negative $7.1 million for 2003. The company's high overhead reported for 2003, almost double that for 2001, includes a $23.8 million non-cash accrual expense for environmental clean-up and remediation. Since this $23.8 million non-cash expense was not paid out, Hecla's 2003 EBT of negative $7.1 million is adjusted to positive $16.7 million. These EBTs, reported and adjusted, do not include the projected pollution control costs. In announcing the results for 2003, Hecla's President stated: "Hecla has had a phenomenal two years. The true measures of our company's performance - income before environmental accruals, gross profit, cash flow and balance sheet - all continue to improve." (Hecla, 2004c). In responding to what a typical year EBT might be in Worksheet H, Hecla states: "... earnings before taxes have significantly changed over the three year period (*2001-2003*). Average EBT from 1994 to 2000 was negative $44,327 (Hecla, 2004a - Att.D) ." When adjusting for the one time non-cash expense for 2003, the average EBT for the period 2001-2003 increases from negative $1.2 million to positive $6.8 million." (Coad, 2004).

Applying the projected pollution control expenses (corrected) to the 2003 EBTs results in the following: Hecla's reported EBT becomes negative $8.3 million; the adjusted and SAIC EBTs decline to $15.6 million and $15.9 million, respectively. The company's profit rate for 2003 goes from -6.1% to -7.1% using Hecla's submitted figures; the adjusted Hecla cost profit rate goes from 14.4% to 13.4%; and the adjusted SAIC cost profit rate goes from 14.4% to 13.7% (Coad, 2004).

Profitability analysis for the Lucky Friday Mine based on Hecla's submission shows an EBT of negative $5.4 million for 2001, negative $1.8 million for 2002, and positive $0.3 million for 2003. Though the company considers EBT for 2002 to be typical for the period 1994 - 2000 (Hecla, 2004a - Worksheet H), there has been a steady improvement in the Mine's EBT for the period 2001 through 2003. In looking at 2003, when projected pollution control costs are included, the Mine's EBT falls to negative $0.93 million based on Hecla's corrected costs, negative $0.84 million based on the adjusted Hecla costs, and negative $0.55 million using the SAIC costs. The mine's profit rate for 2003 drops from 2.4% to -7.5%, -6.8% and -4.4% based on applying the respective cost figures (Coad, 2004).

Another measure of profitability can be total cash costs per ounce of silver (for a mine's production) when compared to the average price of silver. Hecla states that, "We believe cash costs per ounce of silver or gold provide an indicator of profitability and efficiency ..." (Hecla website) Total cash costs for the Lucky Friday Mine versus the average price of silver were: $5.02 v. $5.00 (2000), $5.27 v. 4.36 (2001), $4.97 v. $4.63 (2002), and $4.86 v. $4.91 (2003) (Coad, 2004). While the mine about broke even in 2000, total cash costs exceeded silver prices for 2001 and 2002, while the silver price exceeded cash costs for 2003 (Hecla website; Coad, 2004). For the first quarter of 2004, Hecla reported that the Mine's sales and income improved despite higher total cash production costs of $5.44 per ounce of silver, while the price of silver averaged $6.71 per ounce (Hecla, 2004e).

Hecla recently projected the price of silver will average $5.50 per ounce in 2004 and 2005 (Hecla, 2004d).

Lucky Friday Mine's recent history does not appear to be indicative of its future. On December 5, 2003, Hecla announced its decision to "drive a 5,500-foot drift on the 5900 level" of the Lucky Friday Mine, at a cost of approximately $8 million, providing access to 28 million more ounces of silver, and nearly doubling annual production through 2011 (Hecla, 2003d). Hecla projects that the new development will allow it to produce up to 4 million ounces of silver annually beginning in late 2005, with cash production costs of less than $4.50 per ounce of silver. Hecla's President and CEO Phillips Baker stated that, "This new development level will also give us an excellent platform for future exploration at Lucky Friday, giving us more time to enlarge the resource at a better grade of ore that can be mined even more profitably". Mr. Baker referred to the $8 million as a "minor capital investment" and went on to say that "Driving the 5900 drift positions us to develop resources in the future which could give us access to more mineable ounces of silver after this current plan is completed." Hecla also indicated that compared to 94 people employed as of early December 2003, at full production the Mine will increase employment by up to 50% (Hecla, 2003d).

Financial ratios are used to evaluate other aspects of an entity's financial condition. Ratios should not only be analyzed with respect to the entity under review, but where possible, compared to other entities in the same business. From Worksheets J, K and L, Hecla provided the Current Ratio, Beaver's Ratio, and the Debt to Equity Ratio (Hecla, 2004a). Hecla's Current Ratio, an indicator of its ability to cover its current liabilities, went from 0.99 in 2001, to 1.39 in 2002, to 4.73 in 2003. The 4.73 Current Ratio is very strong by any measure, and Hecla states that "During 2002 and 2003, Hecla's current ratio was favorable to other firms in this line of business." (Hecla, 2004a - Worksheet J).

Hecla's Beaver's Ratio, a measure of a company's solvency and potential for bankruptcy, steadily improved for the three year period (2001 - 2003) and is above levels of concern. Hecla states that "During 2002 and 2003, the Beaver's ratio compares favorably to other similar mining companies. The Beaver's Ratio from 1994 through 2001 compares unfavorably." (Hecla, 2004a - Worksheet K) Hecla did not provide its calculations for the 1994 through 2000 period and as mentioned earlier, EPA finds that the earlier financial history is not relevant to this evaluation.

Hecla's Debt to Equity ratio, a measure of the degree to which a company's debt is backed by assets, shows a continuing decline from 2001 through 2003, going from 1.13 in 2001 to 0.42 in 2003. This decline in the Debt to Equity ratio during this period is a positive indicator. Hecla states that for 2001, the debt to equity ratio was similar to other mining companies, and for 2003 the ratio was "[s]imilar to, or better than" other similar companies (Hecla, 2004a - Worksheet L).

Hecla had cash and short term investments of $123.4 million as of December 31, 2003.

In June 2004 Hecla projected that by the end of 2005 it expects to retain $111.1 million in cash (Hecla, 2004d). These are strong cash positions.

Overall, Hecla's financial ratios demonstrate that the company is in good financial condition and there has been constant improvement for the period 2001 through 2003. The same financial ratios for the Lucky Friday Mine, for the period 2001 through 2003, indicate that the Mine financial condition is sound, though there are no other mining operations with which it can be compared.

4. Summary of Public Comments Related to Hecla's Claim Regarding Substantial and Widespread Economic and Social Impact

a. Industry Comments

In its response to EPA's proposed decision (Decision Document, August 12, 2004), Hecla's Lucky Friday Mine and another mining company raised three issues related to EPA's analysis of Hecla's claim alleging that compliance with the permit would cause substantial and widespread economic and social impact. In EPA's opinion, none of these comments have any merit, and the commenters failed to provide documentation that would justify any alternative conclusion.

First, Hecla asserts that EPA chose to wait until the first period of reasonable silver prices to issue its decision and based that decision on the recently improved silver price. EPA finds this issue is without merit. While EPA's analysis reviewed silver prices for the period 2001 through 2003 (Coad, 2004, p.17), EPA concluded these figures were not appropriate for evaluating the Mine. The Agency instead performed its analysis based on "[a]ssumptions used by Hecla in its confidential forward-looking analysis" (Coad. 2004, p.23). These assumptions included Hecla's price forecasts for the period 2004 through 2011. Further discussion is provided in EPA's Response to Comments Document. (See response to comment #20).

Second, industry alleges that EPA's numerous recent requests for information, made more than two years after Hecla Lucky Friday Mine filed its request, were merely efforts to gain data to support a decision already made. EPA disagrees. Hecla's initial submissions were inadequate. EPA made exhaustive efforts to obtain up-to-date and thorough financial documentation from the applicant in order to make the most informed decision possible. In addition, EPA had to request from Hecla a clear understanding of which materials were considered confidential business information (CBI) before making its proposed decision public. Finally, EPA sought to make its decision based on the best available information at the time of the decision.

Third, Hecla asserts that EPA's analysis relies on Hecla Mining Company financing the pollution control expenditures, and does not take into account Hecla's view that Lucky Friday Mine must be self-sufficient and independently sustainable. EPA finds that the

evidence indicates that Lucky Friday can comply with its permit and remain independently sustainable. In addition, historically, Hecla has provided financing on occasion to Lucky Friday, particularly during periods of low prices. EPA had an extensive economic analysis performed evaluating Hecla Lucky Friday mine's initial claims. (Coad, 2004). EPA then updated its financial analysis in response to the comments, concluding that the Mine's financial situation continues to be strong. (Coad, 2005). First, EPA notes that in conducting a financial analysis, EPA's Interim Economic Guidance states that "The structure, size, and financial health of the parent firm should also be considered."(U.S. EPA. 1995. pp.3-4) The EPA economic analysis explains that Lucky Friday is an operational division of Hecla, and that "[H]ecla will first attempt to finance Lucky Friday's capital expenditure's and exploration costs through Lucky Friday's cash flow, but could also be reasonably expected to contribute financing support for major projects."(Coad. 2004, p.12) Also, since "[L]ucky Friday is not an independent subsidiary, Hecla's support is a reasonable expectation.(Coad. 2004, p.27) Hecla's own submissions also indicate that historically it has financed the Mine.

b. Other Comments

The Mullan School District (MSD) raised two issues regarding the potential impact of the variance decision on MSD's tax revenues and the locality in general.

First, MSD argues that EPA should have reviewed further the potential impacts upon the community. EPA disagrees. EPA's Interim Economic Guidance states that if EPA determines that "the entity will not incur any substantial impacts due to the cost of pollution control... then the analysis is completed." (U.S. EPA. 1995, p.3-1). EPA has concluded that Hecla Lucky Friday Mine will not incur any substantial impacts, and therefore, no further analysis is required. More recent developments reinforce EPA's conclusions. In particular, Hecla had an optimistic and positive discussion of the Lucky Friday Mine's prospects in its quarterly financial report for the period ending September 30, 2004 (Hecla. 2004f) and in the company's news release of November 4, 2004.(Hecla. 2004e) EPA notes that Hecla's press release was issued after EPA proposed publicly that it did not intend to grant Lucky Friday's request for a variance on its water permit. It is apparent from its statements that Hecla is continuing to explore and make significant investments in the Lucky Friday facility despite the pending decision on its variance request.

Second, MSD comments that the School District will lose significant revenues if Hecla either proceeds with the additional pollution control investment or shuts down because it cannot afford the pollution control investment. EPA disagrees, as the premise of underlying this conclusion is incorrect. EPA's analysis concludes that there is no indication at this time that the Lucky Friday mine will shut down, or substantially reduce its production levels, rather than comply with EPA's water quality standards based effluent permit. EPA has examined the potential impacts of the permit requirements on MSD property and net profit tax revenues. With respect to property taxes, the School

District included in its response a letter from the Shoshone County Assessor, wherein it states that "The value of the Lucky Friday Mine dropped from $19,150,550 in 2001 to $5,595,820 in 2004.(White, Jerry. 2004) *The major factors that caused the value decrease were depressed silver prices, decreased production and limited ore reserves.*"(emphasis added by EPA) Lucky Friday's submissions indicate its property tax payments have decreased over the 2001 - 2004 period. However, by late 2004, all three factors attributed by the County Assessor for the Mine' decreasing property value had reversed, e.g.: (1) silver prices had already begun a significant increase compared to earlier levels, silver prices have maintained the higher levels, and silver prices are projected by Hecla to remain at these higher levels for the foreseeable future; (2) the 5900 level drift project was in process, thereby enabling Lucky Friday to access and mine additional reserves; and (3), production at the Mine would about double, enabling production to proceed at 100 percent capacity. Based on these current and projected conditions, EPA would expect that the Mine's property tax payments should increase in succeeding years above its 2003 property tax payment. With respect to net profit taxes, the School District did not provide specific details on Lucky Friday Mine's historical payment of county net profits taxes. EPA's review of the CBI financial records provided by Hecla and the Lucky Friday Mine (Coad. 2004; 2005) and of additional information provided by the School District and public sources, lead EPA to conclude that Lucky Friday's payments of county net profits taxes will not be materially affected by the pollution control investment necessary to comply with the water quality standards based permit.

c. Comments Related to Technical Feasibility of Treatment

Hecla also commented on issues related to the technical feasibility of treatment analysis which SAIC prepared for EPA (SAIC, 2004). In general, Hecla's comments were directed toward challenging the appropriateness of SAIC's selection of pollution control technology. Hecla's comments on the SAIC report included statements contesting SAIC's cost estimates for specific components of the treatment train, appropriateness of comparing the Lucky Friday Mine to the Red Dog Mine, and questioning SAIC's reviews of hydroxide precipitation and sulfide precipitation. Although EPA responded to each comment, none of the information in Hecla's comments provided new or additional information which supported revising the Agency's analysis (See Section F, response to comments #12 - 15 in Response to Comments).

EPA's analysis of feasibility as it related to Hecla's variance request considered both the treatment cost estimate in the SAIC report and Hecla's higher treatment cost estimate. EPA concluded that even using Hecla's higher cost estimate, the treatment was feasible and therefore would not result in substantial and widespread economic and social impact.

In summary, Hecla did not provide any new or additional information which supported revising EPA's determination of the feasibility of treatment.

5. Conclusion as to Hecla's Claim Regarding Substantial and Widespread Economic and Social Impact

After evaluating Hecla's submissions, additional related information including its forward looking analysis of the Lucky Friday Mine, the comments received, as well as more recent developments at the Lucky Friday Mine and in the silver market in general, EPA has concluded that implementing the proposed pollution control project to meet water quality standards will not cause the Mine to close or materially change its ongoing operations, although its profitability will be slightly reduced.. Hecla should not have any difficulty financing the necessary pollution control equipment and covering the operation and maintenance costs.

Hecla has kept the Lucky Friday Mine in operation during periods of sustained losses; silver prices have improved overall while the total cash cost of production is declining; Mine production increased from 2002 to 2003; and Hecla is investing some $8 million in the Mine, increasing production to near full capacity within a relatively short period of time while obtaining a better grade of ore more profitably, and increasing Mine employment by up to 50%. Hecla should easily be able to finance the cost of the necessary pollution controls. As the Mine will continue to operate at increased production and employment levels, there will be no adverse impacts on employment.

Consistent with the approach recommended in EPA Guidance (EPA, 1995), EPA concluded there was no evidence to indicate that the Lucky Friday Mine or Hecla will incur any substantial adverse impact as a result of compliance with the NPDES permit. Because EPA found that there were no substantial impacts to the Lucky Friday Mine or Hecla, there was no need to further evaluate potential impacts on the community. Nonetheless, EPA evaluated the information submitted by the Mullan School District during public comment and determined that school district would not lose significant revenues as a result of the installation of pollution controls to meet the requirments of the NPDES permit.

EPA concludes that Hecla has not demonstrated that a variance should be granted based on the claim that controls more stringent than those required by Section 301(b)(1)(A) and (B) and 306 of the Act would result in a substantial adverse impact to the Hecla Lucky Friday Mine. 40 CFR 131.33(d)(3)(vi).

V. Conclusion

Based on the above analysis of Hecla's submission and public comments, EPA concludes that Hecla has not satisfied the requirements for granting of a variance identified at 40 CFR 131.33(d). Hecla failed to demonstrate that the designated use is unattainable for one of the reasons specified in 131.33(d)(3). Therefore, EPA denies Hecla's request for variances from the applicable water quality criteria for cadmium, lead and zinc.

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